WHAT IS CLAIMED IS:

1.   A method for providing quality-of-service to VoIP over a wireless local access network comprising:

sending an invite message from a calling party to a SIP proxy server;

determining whether voice slots are available on an access point;

forwarding the invite message from the SIP proxy server to a called party, and

if the called party sends an acknowledgement message to a calling party in response to receiving the invite message, adding the calling party to the polling list of the access point, and sending packets to and receiving packets from the called party during a contention-free period of the access point; and

2.   The method of claim 1, further comprising if the voice slots are not available on the access point, sending a termination message from the SIP proxy server to the called party.

3.   The method of claim 1, wherein sending an invite message to a SIP proxy server comprises sending a SIP INVITE message to the SIP proxy server.

4. ─   The method of claim 3, wherein forwarding the invite message from the SIP proxy server to a called party comprises forwarding the SIP invite message from the SIP proxy server to a called party.

5.   The method of claim 1, wherein if the called party sends an acknowledgement message to a calling party in response to receiving the invite message comprises if the called party sends a SIP ACK message to a calling party in response to receiving the invite message.

6.   The method of claim 1, wherein sending a termination message from the SIP proxy server to the called party comprises sending a SIP BYE message from the SIP proxy server to the called party.

7.   The method of claim 1, wherein adding the calling party to the polling list of the access point comprises sending a MAC management frame from the calling party to the access point requesting the calling party be added to the polling list.

8.   The method of claim 7, wherein sending a MAC management frame from the calling party to the access point requesting the calling party to be added to the polling list comprises sending a MAC management frame from the calling party to a point coordinator of the access point.

9.   The method of claim 1, further comprising adding the called party to the polling list of the access point.

10.   The method of claim 9, wherein adding the called party to the polling list of the access point comprises sending a MAC management frame from the called party to the access point requesting the called party be added to the polling list.

11.   The method of claim 10, wherein sending a MAC management frame from the called party to the access point requesting the called party be added to the polling list comprises sending a MAC management frame from the called party to a point coordinator of the access point.

12.   The method of claim 1, further comprising adding the called party to the polling list of a new access point.

13.   The method of claim 12, wherein adding the called party to the polling list of the new access point comprises sending a MAC management frame from the called party to the new access point requesting the called party be added to the polling list.

14.   The method of claim 13, wherein sending a MAC management frame from the called party to the new access point requesting the called party be added to the polling list comprises sending a MAC management frame from the called party to a point coordinator of the new access point.

15.   The method of claim 1, further comprising if the voice slots are available on the access point, at least one of sending a termination message from the called party to the calling party and sending a termination message from the calling party to the called party.

16.   The method of claim 15, wherein at least one of sending a termination message from the called party to the calling party and sending a termination message from the calling party to the called party comprises at least one of sending a SIP BYE message from

the called party to the calling party and sending a termination message from the calling party to the called party.

17.   The method of claim 16, further comprising if at least one of the calling party and the called party sends a confirmation message, removing at least one of the calling party and the called party from the polling list of the access point.

18.   The method of claim 17, wherein if at least one of the calling party and the called party sends a confirmation message comprises if at least one of the calling party and the called party sends a SIP OK message.

19.   The method of claim 17, wherein removing at least one of the calling party and the called party from the polling list of the access point comprises sending a MAC management frame from the at least one of the calling party and the called party to the access point requesting the at least one of the calling party and the called party be removed from the. polling list.

20.   The method of claim 19, wherein sending a MAC management frame from the at least one of the calling party and the called party to the access point requesting the at least one of the calling party and the called party be removed from the point coordinator of the polling list.

21.   The method of claim 1, further comprising if the called party sends an

acknowledgement message to a calling party in response to receiving the invite message,

moving at least one of the calling party and the called party to a new access point in a same IP

subnet, and adding the at least one of the calling party and the called party to the polling list

of the new access point.

22.   The method of claim 1, further comprising if the called party sends an

acknowledgement message to a calling party in response to receiving the invite message,

moving at least one of the calling party and the called party to a new access point in a

different IP subnet, adding the at least of one of the calling party and the called party to the

polling list of the new access point, and sending a re-invite message to at least one of the

calling party and the called party.

23.   The method of claim 22, wherein sending a re-invite message to at least one of

the calling party and the called party comprises sending a SIP RE-INVITE message to at least

one of the calling party and the called party.

23.   The method of claim 1, wherein sending packets to and receiving packets from

the calling party during a contention-free period of the access point comprises sending

packets to the access point, wherein the access point forwards the packets to at least one of

the called party and the calling party.

24.   The method of claim 23, wherein sending packets to the access point further comprises sending packets from the access point to a voice VLAN via a wireline network, wherein the wireline network is a switched network.

26.   The method of claim 24, wherein sending packets to the access point further comprises sending packets from the access point to a voice VLAN via a wireline network, wherein the wireline network is a switched ethernet.

27.   The method of claim 26, wherein sending packets from the access point to a voice VLAN via a wireline network further comprises sending packets from the access point to a voice VLAN via a wireline network using packet level quality-of -service techniques.

28.   The method of claim 27, wherein sending packets from the access point to a voice VLAN via a wireline network using packet level quality-of -service techniques comprises sending packets from the access point to a voice VLAN via a wireline network using Differentiated Services.

29.   A machine-readable medium having instructions stored thereon for execution by a processor to perform a method for providing quality-of-service to VoIP over a wireless local access network, comprising:

sending an invite message from a calling party to a SIP proxy server;

determining whether voice slots are available on an access point; and

forwarding the invite message from the SIP proxy server to a called party, and

if the called party sends an acknowledgement message to a calling party in response to receiving the invite message, adding the calling party to the polling list of the access point, and sending packets to and receiving packets from the called party during a contention-free period of the access point.

30.   The machine-readable medium of claim 29, wherein the method further comprises if the voice slots are not available on the access point, sending a termination message from the SIP proxy server to the called party.

31.   An system for providing quality-of-service to VoIP over a wireless local access network, comprising:

    means for sending an invite message from a calling party to a SIP proxy server;

    means for determining whether voice slots are available on an access point;

    means for forwarding the invite message from the SIP proxy server to a called party, and

    if the called party sends an acknowledgement message to a calling party in response to receiving the invite message, means for adding the calling party to the polling list of the access point, and means for sending packets to and receiving packets from the called party during a contention-free period of the access point.

32.   The system of claim 31, further comprising means for sending a termination message from the SIP proxy server to the called party.

33.   The system of claim 31, wherein one machine comprises the SIP proxy server

and the access point.

34.   The system of claim 31, wherein a first machine comprises the SIP proxy

server and a second machine comprises the access point.

35.   The system of claim 34, further comprising a communication protocol

between the first machine and the second machine for allowing the SIP proxy server and the

access point to communicate.

21.   The method of claim 1, further comprising if the called party sends an acknowledgement message to a calling party in response to receiving the invite message, moving at least one of the calling party and the called party to a new access point in a same IP subnet, and adding the at least one of the calling party and the called party to the polling list of the new access point.

22.   The method of claim 1, further comprising if the called party sends an acknowledgement message to a calling party in response to receiving the invite message, moving at least one of the calling party and the called party to a new access point in a different IP subnet, adding the at least of one of the calling party and the called party to the polling list of the new access point, and sending a re-invite message to at least one of the calling party and the called party.

23.   The method of claim 22, wherein sending a re-invite message to at least one of the calling party and the called party comprises sending a SIP RE-INVITE message to at least one of the calling party and the called party.

24.   The method of claim 1, wherein sending packets to and receiving packets from the calling party during a contention-free period of the access point comprises sending packets to the access point, wherein the access point forwards the packets to at least one of the called party and the calling party.

25.   The method of claim 24, wherein sending packets to the access point further comprises sending packets from the access point to a voice VLAN via a wireline network, wherein the wireline network is a switched network.

26.   The method of claim 25, wherein sending packets to the access point further comprises sending packets from the access point to a voice VLAN via a wireline network, wherein the wireline network is a switched ethernet.

27.   The method of claim 26, wherein sending packets from the access point to a voice VLAN via a wireline network further comprises sending packets from the access point to a voice VLAN via a wireline network using packet level quality-of-service techniques.

28.   The method of claim 27, wherein sending packets from the access point to a voice VLAN via a wireline network using packet level quality-of-service techniques comprises sending packets from the access point to a voice VLAN via a wireline network using Differentiated Services.

29.   A machine-readable medium having instructions stored thereon for execution by a processor to perform a method for providing quality-of-service to VoIP over a wireless local access network, comprising:

sending an invite message from a calling party to a SIP proxy server;

determining whether voice slots are available on an access point; and

forwarding the invite message from the SIP proxy server to a called party, and

YOR920030291PCT1(8728-639 PCT1)

AMENDED SHEET (ARTICLE 19)